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An undiagnosed eventration of diaphragm in a pregnant lady–out of the blue problem

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Abstract
We report a rare case of 34-year-old female with left diaphragmatic eventration presenting during adulthood. The primigravida patient came for emergency cesarean section who presented with breathlessness during perioperative period. Patient had no previous history of similar complaints, or any history of trauma. Physical examination showed normal findings in the patient during preanesthesia checkup. With best of our knowledge this is the first in pregnant patient in Maharashtra in whom this problem was identified.

Keywords: adult, eventration of diaphragm, pregnancy, respiratory distress

Introduction
A 34-year-old female patient got admitted in critical care area with the complaint of breathlessness, which was gradual in onset and progressive in nature. The patient gave history of cesarean section. She was primigravida and cesarean section conducted due to primary infertility and pregnancy induced hypertension under subarachnoid block. On postop day two she developed symptoms of breathlessness exaggerated on lying down position. The peripheral oxygen saturation was 85% with room air and increased to 92% with 6L/min oxygen supplementation. She also had 3-4 episode of vomiting, a spike of fever 102^0 F.
The past history suggested that, she had previous on and off respiratory tract infections and got treatment from the local doctor. There was no history of trauma or similar complaints among the family members. The patient had regular antenatal check up in the same institution and was diagnosed as having pregnancy induced hypertension. The patient received Tab Labetalol 100mg twice a day since 28^{th} week of gestation. There was no history of previous hospitalization and chest radiographic study. There was no history suggestive of bronchial asthma, tuberculosis.
On examination the patient was conscious oriented and was obeying commands. Higher mental function tests were within normal limits. The respiratory system revealed normal findings except for decreased air entry on left side of the lower lung fields. There was no tracheal deviation and respiratory rate was 24 per min. The Per abdomen examination revealed linea nigra and site of incision. The bowel sounds were present and was sluggish in nature. The heart sounds were prominent and no abnormality was fond in cardiovascular system.
A battery of blood investigations like complete blood count, renal and liver function test, arterial blood gas and chest radiograph as per our ICU protocol. All the blood investigation reports were within normal limits. The arterial blood gas revealed normal findings, PaO2 of 110, PaCO2 - 38, Ph of 7.46, Bicarbonate of 20. The chest radiograph revealed the presence of eventration of left dome of diaphragm (fig 1a and b). A HRCT thorax was advised (fig 2) and it confirmed eventration of left dome of diaphragm causing displacement of the heart towards contralateral side. There was a minimal pleural effusion on right side. A surgical opinion was sought and decided to not to intervene at present moment as she was clinically improving. A follow up was advised once the patient was planned for the discharge from hospital.
The patient received In Piperacilline tazobactum 4.5gm twice a day and In Levofloxacin 500mg once a day intravenously. On day 3 of ICU admission patient was maintaining 96% oxygen saturation with room air and decided to shift her to step down ICU. A detailed explanation regarding diaphragmatic eventration was given to the patient and to the husband and asked them to inform the treating doctor in future wherever they go. This will help the treating doctor to plan the treatment management, especially for anaesthesiologist.

Discussion
Eventration of diaphragm is a congenital anomaly where in, failure of muscular development of part or all of one or both hemidiaphragms may result this condition. Here the abnormal elevation of the diaphragm is seen due to paralysis or aplasia of the muscular fibres [1]. It may be a congenital or acquired condition. This condition is most common in left side than right side [2]. This is a rare case of complete eventration of diaphragm on left side in a pregnant lady, which might be a congenital origin. This condition is usually Presents as asymptomatic but in our case the patient gave history of repeated lower respiratory tract infections. Most of the time the finding is incidental, as happened in our case.
The diagnosis of the eventration of diaphragm was made postoperatively in this patient. Since during pregnancy the radiological investigations are contraindicated this was an incidental postoperative finding. Our patient did undergo cesarean section under subarachnoid block. Had it been, under general anaesthesia, the patient would have landed up

in delayed recovery or difficulty in weaning from ventilator. In Troperatively the anaesthesiologist would have faced the problem, as patient could have not maintained the oxygen saturation. As an institutional protocol the case was managed under regional anaesthesia as there was no contraindication.

There is a rare case report where the authors have done the surgical intervention in a pregnant lady for the correction of eventration of diaphragm. The case report suggests that, pregnant lady came at the gestational age of 30 weeks with history of acute respiratory distress syndrome.[2] In this case the authors did use MRI screening technique for the confirmation of the condition.

The asymptomatic patients may not require the definitive corrective surgery like plication of diaphragm. Such surgeries are not free from complications like atelectasis of ipsilateral side of lung [3].

Our patient got discharged from the critical care area after 3 days from ICU admission and from hospital after 10 days. Nonwilliningness of the patient and relatives prevented us to evaluate the patient for cardiac screening and pulmonary function test.

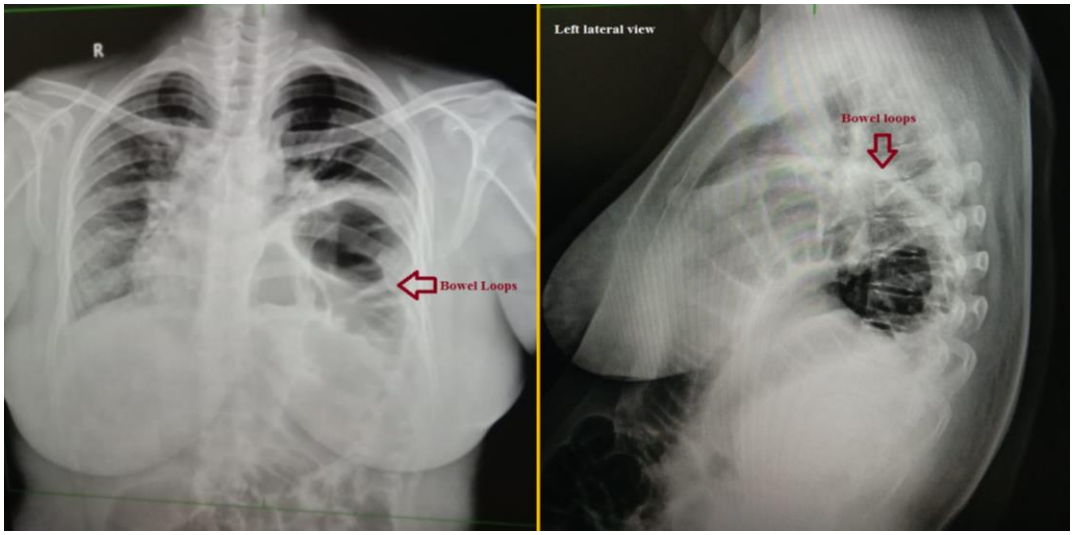

Fig 1a: (Posteroanterior view) and 1b (Left lateral view) – Shows bowel loops in left hemithorax

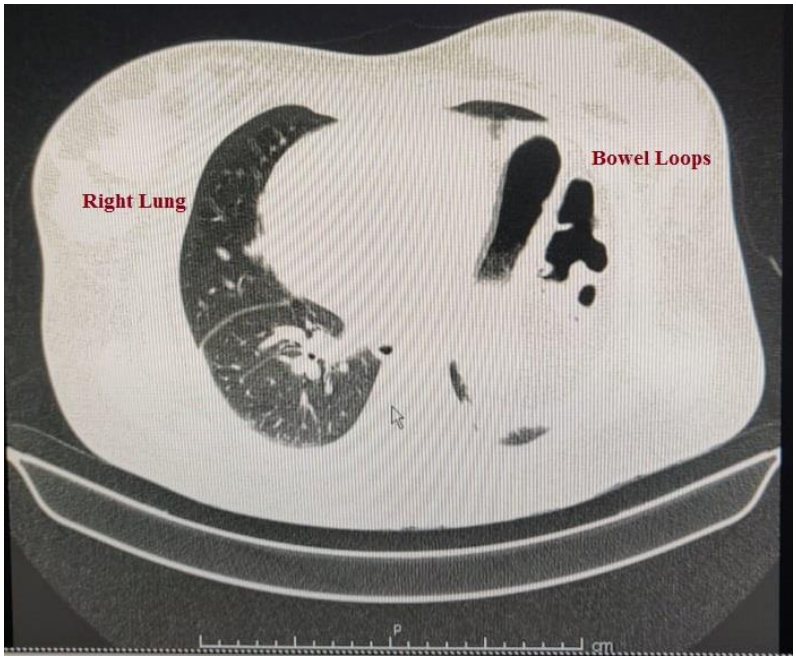

Fig 2: HRCT Shows bowel loops in left hemithorax

Conclusion

The eventration of diaphragm is a rare disorder seen among pregnant woman. We recommend the routine ultrasonographic thoracic screening of antenatal cases atleast once in pregnancy time will definitely aid anaesthesiologist to choose type of anaesthesia.

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